Introduction

Autoimmune limbic encephalitis
Subacute onset of irritability, short term memory loss, depression, sleep disturbances, hallucinations, seizures, confusion

Associated antibodies:
- Anti-NMDA receptor antibody
- Anti-GAD antibody
- Anti-GABA-B receptor antibody
- Anti-AMPA receptor antibody

Previously described cases of anti-NMDA encephalitis in pregnant women showed:
- high titers (>1:80)
- disease onset later in pregnancy (8, 14, 17 weeks)
- significant neuropsychiatric symptoms
- failure to respond to first line therapy
- associated ovarian teratomas

Patients develop rapidly progressive neuropsychiatric symptoms, followed by autonomic instability often requiring ventilator management.

First line therapy—corticosteroids, IVIG, PLEX
Second line therapy—Cyclophosphamide, Rituximab

Clinical course

36 year-old woman with no past medical history presented to the hospital with four days of confusion, hallucinations, hypersexuality, disinhibition, and pressured speech

CT head negative and initial LP showed lymphocytic pleocytosis (WBC 44, lymph 95%, pro 30.9, gluc 65)

TSH undetectable, anti-TPO and anti-TSI antibodies positive —> Hashimoto’s encephalopathy and started on steroids and Methimazole

Labs normalized, however no clinical improvement

MRI non-diagnostic, CT CAP showed thickened endometrium —> + urine pregnancy test

CSF showed +NMDA and anti-GAD —> PLEX

Discharged home

Continued improvement in clinical course post-discharge, now asymptomatic and otherwise uncomplicated pregnancy and delivery

Significance of Case

Pregnant patient with ≥ 4 autoimmune antibodies— all associated with psychiatric disturbance

Time Course (days)

Onset of symptoms; predicted conception within 24-48 hrs

(1) Presentation—hallucination, hypersexuality, disinhibition, pressured speech; negative UPT

(1) Hyperthyroid: +anti-TPO, +anti-TSI antibodies

(4) Normal MRI, CSF with lymphocytic pleocytosis, neg bacterial, fungal cultures, and viral PCR

Failed steroid therapy

(44-58) 7 cycles of PLEX

Asymptomatic at full term delivery of healthy infant

(24) +Anti-NMDA (titer 1:5), +anti-GAD, + uncharacterized neuronal antibody results

Methimazole and steroids initiated

(36) Positive UPT

(58) Asymptomatic, discharged

Discussion and Conclusion

First described case in literature of pregnant patient with clinical diagnosis of encephalitis associated with multiple autoimmune antibodies
- nonresponsive to steroid treatment
- improvement with PLEX
- otherwise normal pregnancy, delivery, and fetus

Unique features
- lower titers (1:5 vs >1:80 in other cases) of anti-NMDA antibody
- unclear if single antibody contributed to symptomatic development or if there was synergy
- less severe symptoms (no autonomic instability)
- symptoms appeared earlier in pregnancy (24-48 hours after conception)
- no associated malignancy
- good response to PLEX, response to steroids
- unclear if conception and clinical manifestations are coincidental or are related pathophysiologically

Autoimmune limbic encephalopathy should be considered in patients who fail to respond to traditional therapies for other more common causes of encephalopathy

Figure 1. Patient’s MRI on day four with no remarkable changes.

References